REMARKS

By this amendment, Applicants have amended claim 1 to include that the platinum concentration is up to 0.1g/L as mentioned in paragraph 24 and claim 2 of the published application US 2007/0119152. Applicants have also amended claim 1 to include that the engine is a diesel engine as mentioned throughout the published application US 2007/0119152, for example, at paragraphs 1, 14, 22, and 25. These amendments do not add new matter. Applicants respectfully request entry of this amendment and allowance of the pending claims.

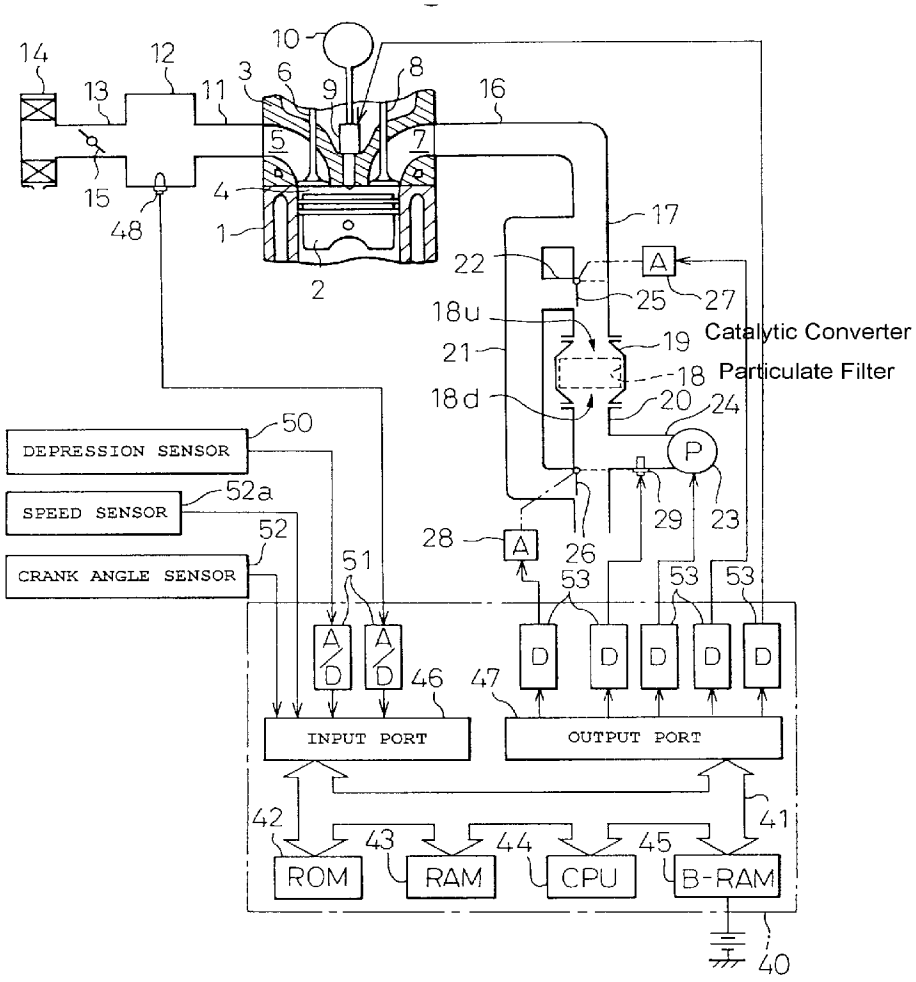
1. Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over U.S. Patent No. 6,367,246 (Hirota) in view of U.S. Patent No. 6,044,644 (Hu). Applicants respectfully traverse this rejection.

None of the cited references make the current claims obvious. The current claims comprise a particulate filter that is coated with a second oxidation catalyst on the inner side which is not described by Hirota. The HC-adsorber of Hirota protects the following NOx-adsorber from being poisoned. Therefore, from this point of view, it makes sense to position the HC-adsorber on the inner walls of the upstream side of the particulate filter. However, in the current claims the HC-adsorber is deemed to collect the HCs being emitted especially during cold start conditions of the engine. Then the stored HCs are emitted again while the temperature of the exhaust system is being increased. These HCs then burn onto the catalytically activated inner walls of the entry side of the particulate filter and thus help to combust the particulates collected in the filter. It cannot be seen why one of ordinary skill in the art would disrupt the devices disclosed in Hirota to put the HC-adsorber in front of the particulate filter and further coat a second oxidation catalyst on the inner walls of the entry side of the particulate filter. Therefore, Hirota does not make the current claims obvious and one of ordinary skill in the art would not combine it with Hu the way the Examiner does.

Moreover, Hirota teaches that the HC adsorber is layered or disposed on the PF (shown in Hirota's Figure 2). The Examiner concedes this point in the Office Action at page 3. In contrast to Hirota, Applicants claims include that the particulate filter is separated from the hydrocarbon adsorber, which Hirota specifically teaches away from this design because he teaches that the HC adsorber is layered or disposed on the PF.

Further, Hirota discloses a particulate filter (18) arranged in the exhaust passage of an engine, where only the inner wall surface of the downstream end open cells of the particulate filter is covered with a NOx adsorbent, and the inner wall surface of the upstream end open cells is covered with a HC adsorbent. However, all Hirota disclosure is that his catalyst (19) is an underfloor catalyst as shown in Figure 1

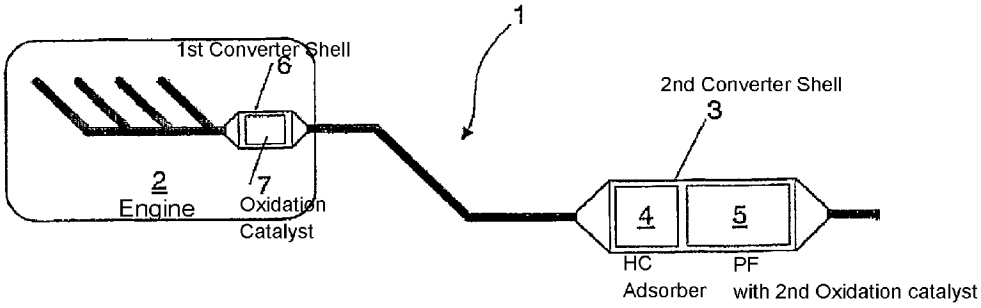


Clearly Hirota teaches away from closely coupling the oxidation catalyst to the engine outlet, while the HC adsorber and particulate filter are part of the underfloor catalyst (far away from the engine), as currently claimed. Applicants' arrangement, among other things, allows the oxidation catalyst to be rapidly heated up to its light-off temperature, and the hydrocarbon adsorber being arranged far away from the engine in an area of low exhaust-gas temperatures eliminates premature desorption of the hydrocarbons.

More particularly, Applicants' first oxidation catalyst 7 is closely coupled to the engine 2 so that it warms up quickly after cold start. The particulate filter (PF) 5 as recited in claim 1 is

arranged in the underfloor area of the motor vehicle and is in the same converter housing 3 as the hydrocarbon adsorber (4) as shown in Figure 1 below:

APPLICANTS' DISCLOSURE



Hirota simply does not make this arrangement and the benefits therefrom obvious.

Like Hirota, Hu does not make the current claims obvious. The current claims include exhaust gas purification of diesel engines. In contrast, Hu is directed to plain gasoline engine exhaust gas purification systems. Therefore, in Hu, the close-coupled catalyst has the function of oxidizing carbon monoxide and hydrocarbons and reducing nitrogen oxides at cold start conditions (three-way catalyst). There is a distinction to those skilled in the art between these so-called three-way catalysts and oxidation catalysts, the latter being incorporated in diesel engine exhaust trains. Hu simply is not concerned with diesel engines and oxidation catalysts for such engines—only three-way catalysts for gasoline engines. Accordingly, one of ordinary skill in the art looking for an oxidation catalyst in the field of diesel engines clearly would not consider a three-way catalyst technique as taught by Hu and one would not refer to Hu as the Examiner does in any way.

Moreover, Hu teaches that the close coupled catalyst contains substantially no oxygen storage component close to the engine. Hu says nothing about that the particulate filter is separated from the hydrocarbon adsorber, as currently claimed. Further, Hu does not appreciate the benefits of Applicants' arrangement of having the first oxidation catalyst closely coupled to the engine, which allows the oxidation catalyst to be rapidly heated up to its light-off temperature, and that the hydrocarbon adsorber being arranged far away from the engine in an area of low exhaust-gas temperatures eliminates premature desorption of the hydrocarbons. Moreover, Hu says nothing about having a second oxidation catalyst coated on the PF, as currently claimed.

Further, in the current application, the HC-adsorber is not associated with an oxidation catalyst nor with the particulate filter, respectively. Hence, the platinum content of the HC-adsorber is at a low concentration of up to 0.1 g/L because it is not working as an oxidation catalyst but to prevent cooking of the zeolites used. Neither Hu nor Hirota make obvious this feature.

Applicants respectfully submit that one of ordinary skill in the art would not combine the references in the way the Examiner does because Hu simply is not concerned with diesel engines and oxidation catalysts for such engines—only three-way catalysts for gasoline engines. Further, one would not disrupt the assembly of devices disclosed in Hirota to put the HC-adsorber in front of the particulate filter and further coat a second oxidation catalyst on the inner walls of the entry side of the particulate filter. Therefore, one of ordinary skill in the art would not combine these references the way the Examiner does. Even if one of ordinary skill in the art was to combine the references, one still does not obtain the present claims as the particulate filter would not be separated from the hydrocarbon adsorber. Accordingly, Applicants respectfully submit that the claims cannot be considered obvious over any of the cited references alone or in combination and request that the rejection under 35 U.S.C. §103(a) be reconsidered and withdrawn.

2. Conclusion

Reconsideration and allowance are respectfully solicited.

No fee is believed to be due with respect to the filing of this amendment.

If any additional fees are due, or an overpayment has been made, please charge, or credit Deposit Account No. 11-0171 for such sum.

If the Examiner determines that any further action is necessary to place this application into better form, the Examiner is cordially invited to contact Applicant's attorney at the telephone number provided.

Respectfully submitted,

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